AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1-4. (canceled).

5. (currently amended): ~~The session relay apparatus according to claim 3,~~A session relay apparatus for realizing communication between a reception terminal and a transmission terminal by relaying data via a session, the apparatus comprising:

a session relay unit, corresponding to the session, comprising:

reception session processing means for receiving data from the transmission terminal,

transmission buffering means for temporarily storing the data received from the transmission terminal in a transmission buffer,

transmission session processing means for receiving data from the reception terminal,

wherein the transmission session processing means calculates an amount of transmissible data based on the data received from the reception terminal,

packet scheduling means for controlling delivery of the data stored in the transmission buffer, based on the amount of transmissible data,

delivery control means for delivering the data stored in the transmission buffer in response to the control of the packet scheduling means,

wherein the session relay apparatus comprises a plurality of session relay units, and

wherein said packet scheduling means determines a session relay unit from the plurality of session relay units from which to deliver a packet, based on a communication resource allocation policy including at least:

a bandwidth and a bandwidth ratio allocated to the session corresponding to the determined session relay unit,

the amount of data that is permitted to be delivered (transmissible data) calculated by the transmission session processing means, and

an amount of data stored in the transmission buffer.

6-8. (canceled).

9. (currently amended): ~~The session relay apparatus according to claim 8,~~ A session relay apparatus for realizing communication between a reception terminal and a transmission terminal by relaying data via a session, the apparatus comprising:

a session relay unit, corresponding to the session, comprising:

reception session processing means for receiving data from the transmission terminal,

transmission buffering means for temporarily storing the data received from the transmission terminal in a transmission buffer,

transmission session processing means for receiving data from the reception terminal,

wherein the transmission session processing means calculates an amount of transmissible data based on the data received from the reception terminal,

packet scheduling means for controlling delivery of the data stored in the transmission buffer, based on the amount of transmissible data,

delivery control means for delivering the data stored in the transmission buffer in response to the control of the packet scheduling means,

further comprising means for dynamically changing a control parameter of the session, wherein the control parameter is changed in accordance with a data delivery situation from said packet scheduler,

wherein the control parameter of the session is changed in a direction in which an output bandwidth from the session decreases when a free bandwidth of the session increases,

the control parameter of the session is changed in a direction in which the output bandwidth from the session increases when the free bandwidth of the session decreases, and

the change of the control parameter is stopped when congestion is caused by a change in the control parameter.

10. (previously presented): The session relay apparatus according to claim 9, further comprising means for dynamically changing an amount of allocated communication resources including at least a bandwidth and a bandwidth ratio allocated to the session,

wherein the control parameter is changed in accordance with a data delivery situation from the packet scheduler and an amount of data available for communication notified from the delivery control means.

11. (previously presented): The session relay apparatus according to claim 10, wherein resources allocated to the session are reduced when free bandwidth of the session increases, the resources allocated to the session are increased with its initial value defined as an upper limit when the free bandwidth of the session decreases, and the allocated resources are

increased or decreased in accordance with the amount of transmissible data notified from said delivery control means or an average thereof.

12. (currently amended) ~~The session relay apparatus according to claim 3,~~ A session relay apparatus for realizing communication between a reception terminal and a transmission terminal by relaying data via a session, the apparatus comprising:

a session relay unit, corresponding to the session, comprising:

reception session processing means for receiving data from the transmission terminal,

transmission buffering means for temporarily storing the data received from the transmission terminal in a transmission buffer,

transmission session processing means for receiving data from the reception terminal,

wherein the transmission session processing means calculates an amount of transmissible data based on the data received from the reception terminal,

packet scheduling means for controlling delivery of the data stored in the transmission buffer, based on the amount of transmissible data,

delivery control means for delivering the data stored in the transmission buffer in response to the control of the packet scheduling means, and

including transmission rate control means for controlling transmission control information including at least a bandwidth, availability of transmission, and the amount of data amount of data that is permitted to be delivered , wherein the transmission control information is changed or generated in accordance with a free capacity of the transmission buffer and information from said packet scheduler.

13. (previously presented): The session relay apparatus according to claim 12, further comprising means for receiving packet delivery information from the packet scheduler, and means for checking the transmission buffer for a free capacity changed by a delivered packet, wherein a dispatch confirmation packet is transmitted to the transmission terminal to prompt the same to resume a transmission when the free capacity of the transmission buffer increases to a certain amount or more after a packet has been delivered.

14. (previously presented): The session relay apparatus according to claim 12, further comprising means for examining at least one of a free capacity of the transmission buffer and an average thereof, wherein the transmission terminal is instructed to reduce a transmission bandwidth in accordance with the free capacity.

15-23. (canceled).

24. (currently amended): ~~The session relaying method according to claim 22,~~A session relaying method for a session relay apparatus for realizing a communication between a reception terminal and a transmission terminal by relaying data via a session from a plurality of sessions, the method comprising:

receiving data from the transmission terminal;

temporarily storing the data received from the transmission terminal in a transmission buffer;

receiving data from the reception terminal,

wherein an amount of transmissible data is calculated based on the data received from the reception terminal;

controlling delivery of the data stored in the transmission buffer based on the amount of transmissible data;

delivering the data stored in the transmission buffer in accordance with the controlling of the delivery; and further comprising:

determining a session from the plurality of sessions for which to deliver a packet based on a communication resource allocation policy including at least:

a bandwidth and a bandwidth ratio allocated to the determined session,

the amount of transmissible data, and

an amount of data stored in the transmission buffer.

25-27. (canceled).

28. (currently amended): ~~The session relaying method according to claim 27,~~ A session relaying method for a session relay apparatus for realizing a communication between a reception terminal and a transmission terminal by relaying data via a session from a plurality of sessions, the method comprising:

receiving data from the transmission terminal;

temporarily storing the data received from the transmission terminal in a transmission buffer;

receiving data from the reception terminal,

wherein an amount of transmissible data is calculated based on the data received from the reception terminal;

controlling delivery of the data stored in the transmission buffer based on the amount of transmissible data;

delivering the data stored in the transmission buffer in accordance with the controlling of the delivery; and further comprising:

dynamically changing a control parameter of the session in accordance with a data delivery situation and further comprising:

dynamically changing the control parameter of the session in a direction in which an output bandwidth from the session decreases, if a free bandwidth of the session increases,

dynamically changing the control parameter of the session in a direction in which the output bandwidth from the session increases, if the free bandwidth of the session decreases, and

stopping the dynamic change of the control parameter when a congestion is caused by a change in the control parameter.

29. (previously presented): The session relaying method according to claim 28, further comprising:

dynamically changing the control parameter in accordance with a data delivery situation and the amount of transmissible data by means for dynamically changing an amount of allocated communication resources including at least a bandwidth and a bandwidth ratio allocated to each session of the plurality of sessions.

30. (previously presented): The session relaying method according to claim 29, further comprising:

reducing resources allocated to the session if the free bandwidth of the session increases,

increasing resources allocated to the session with its initial value defined as an upper limit if the free bandwidth of the session decreases, and

increasing or decreasing the allocated resources in accordance with the amount of transmissible data or an average thereof.

31. (currently amended): The session relaying method according to any of claims ~~22 to 29~~24, 28 and 29, further comprising:

changing or generating the transmission control information to said transmission terminal in accordance with the free capacity of said transmission buffer and information from said packet scheduler by transmission rate control means for controlling transmission control information including at least a bandwidth, availability of transmission, and the amount of transmissible data for controlling transmission processing for a session from said transmission terminal.

32. (previously presented): The session relaying method according to claim 31, further comprising:

transmitting a dispatch confirmation packet to the transmission terminal to prompt the same to resume a transmission when the free capacity of the transmission buffer increases to a certain amount or more after a packet has been delivered.

33. (previously presented): The session relaying method according to claim 31, further comprising:

instructing said transmission terminal to reduce a transmission bandwidth in accordance with a free capacity examined by means for examining at least one of the free capacity of the transmission buffer and an average thereof.

34-38. (canceled).